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FOOD ANIMALS AND MEAT CONSUMPTION IN THE UNITED STATES.[1]

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CONTENTS.

	Page.
Trend of population and livestock, 1850–1924	1
Purebred food animals in United States, 1920	5
Monthly ratios of births and slaughter of food animals	6
Dressed-meat yields of cattle, sheep, and swine	9
Meat production, consumption, and foreign trade	13
Annual slaughter of food animals, 1907–1923	13
Annual production of meats and lard, 1907–1923	15
Foreign trade in meats, lard, and animals, 1907–1923	16
Per capita consumption of meats and lard, 1907–1923	19

TREND OF POPULATION AND LIVESTOCK, 1850–1924.

An accurate knowledge of the numbers of the different classes of domestic animals in the country is at all times a matter of interest and value to the farming and other industries concerned with livestock, as well as to many individuals. Hence it has been one of the important functions of our decennial census to supply this knowledge. The livestock population, however, from various economic causes, is subject to more or less abrupt changes from year to year, and therefore it is recognized that a count once in 10 years only is quite inadequate. Thus it happens that this important omission is filled by the United States Department of Agriculture, through its crop-reporting system, which annually estimates the numbers of livestock on the farms of the country. These estimates are made for January 1 and are published soon after that date; they also appear each year in the Yearbook.

It may be noted that the figures in Table 1 vary somewhat from the totals of the department. They are, in fact, not strictly comparable, as the department figures are for animals on farms only, whereas those in the table include the considerable fraction (as ascertained by the census) which is not on farms. Again, the department classifies cattle into "Milk cows"—that is, cows old enough to give milk—and

[1] This issue is a revision of and supersedes the first edition, published in 1922; it also adds two years to most of the data. The estimates in many cases are subject to verification or correction due to later information from census and other sources. Data for the last census of agriculture have become available since the first edition was published; hence in several tables the figures for recent years have undergone some revision.

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"All other," while in the table the cattle are subdivided into "Beef" and "Dairy," the latter, of course, including the young animals and the bulls of that type. The census figures, too, have been taken at different periods of the year and with more or less important changes in the classification of the animals. Therefore, adjustments have been made with a view to rectifying these differences and to bringing all totals to a January 1 basis.

The estimates in the table are by Sewall Wright, of the Animal Husbandry Division, Bureau of Animal Industry, who has made a close study of the census and department figures. In submitting his estimates Doctor Wright states:

> They are made by adjustment of the census figures to a January 1 basis and to include all ages and all animals in towns, villages, and ranges as well as on farms. The estimates of the department have been used to obtain the fluctuations between census years. A method is used by means of which the ratio of the estimates in successive years for 10 years after each census is multiplied by a constant factor so as to make the tenth year agree with the next census. The estimates for dairy cattle have been obtained from those for milk cows by multiplying by 1.572—the ratio of total dairy cattle to milk cows 2 years old and over in the census of 1920—this being the first census in which dairy cattle of all ages were separated from beef cattle. The estimates for beef cattle are simply the differences between the estimates for total cattle and dairy cattle. The term dairy cattle, resting as it does on the old census term "Milch cows" from 1850 to 1890, probably does not mean quite the same thing throughout. There has probably been a much greater increase in the amount of strictly dairy blood than indicated.

TABLE 1.—*Estimated total numbers of cattle, sheep, and swine (on farms and otherwise) in United States, 1850–1924.*

[Census and department figures adjusted to January 1 of each year.]

January 1—	Cattle.			Sheep.	Swine.
	Dairy.	Beef.	Total.		
1850	10, 100, 000	14, 400, 000	24, 500, 000	29, 100, 000	31, 200, 000
1860	13, 500 000	18, 900, 000	32, 400, 000	27, 600, 000	34, 500, 000
1867	12, 000, 000	12, 600, 000	24, 600, 000	38, 100, 000	28, 200, 000
1868	12, 400, 000	13, 600, 000	26, 000, 000	37, 600, 000	28, 300, 000
1869	13, 000, 000	14, 800, 000	27, 800, 000	36, 200, 000	27, 600, 000
1870	14. 000. 000	20, 000, 000	34, 000, 000	39, 000, 000	32, 300, 000
1871	14, 100, 000	21, 000, 000	35, 100, 000	38, 900, 000	36, 400, 000
1872	14, 700, 000	21, 100, 000	35, 800, 000	38, 600, 000	40, 100, 000
1873	15, 400, 000	20, 900, 000	36, 300, 000	40, 100, 000	42, 100, 000
1874	15, 800, 000	20, 500, 000	36, 300, 000	41, 100, 000	40, 700, 000
1875	16, 300, 000	20, 400, 000	36, 700, 000	40, 800, 000	37, 800, 000
1876	16, 900, 000	20, 800, 000	37, 700, 000	43, 300, 000	35, 500, 000
1877	17, 400, 000	22, 200, 000	39, 600, 000	43, 000, 000	39, 500, 000
1878	17, 700, 000	23, 800, 000	41, 500, 000	42, 800, 000	46, 500, 000
1879	18, 900, 000	26, 400, 000	45, 300, 000	45, 500, 000	51, 200, 000
1880	19, 500, 000	25, 900, 000	45, 400, 000	48, 500, 000	51, 200, 000
1881	20, 100, 000	24, 900, 000	45, 000, 000	51, 200, 000	53, 100, 000
1882	20, 500, 000	27, 600, 000	48, 100, 000	52, 300, 000	62, 900, 000
1883	21, 300, 000	33, 400, 000	54, 700, 000	56, 600, 000	60, 000, 000
1884	21, 900, 000	34, 100, 000	56, 000, 000	57, 500, 000	59, 600, 000
1885	22, 600, 000	34, 400, 000	57, 000, 000	56, 500, 000	59, 300, 000
1886	23, 100, 000	35, 700, 000	58, 800, 000	53, 600, 000	58, 900, 000
1887	23, 600, 000	37, 900, 000	61, 500, 000	49, 100, 000	55, 500, 000
1888	24, 100, 000	38, 300, 000	62, 400, 000	47, 200, 000	53, 600, 000
1889	24, 900, 000	38, 300, 000	63, 200, 000	45, 700, 000	59, 200, 000
1890	25, 900, 000	39, 800, 000	65, 700, 000	47, 000, 000	59, 100, 000
1891	26, 100, 000	40, 900, 000	67, 000, 000	46, 400, 000	59, 400, 000
1892	26, 900, 000	42, 000, 000	68, 900, 000	48, 400, 000	62, 900, 000
1893	27, 000, 000	40, 500, 000	67, 500, 000	51, 300, 000	56, 700, 000
1894	27, 100, 000	43, 700, 000	70, 800, 000	49, 300, 000	57, 000, 000
1895	27, 300, 000	41, 700, 000	69, 000, 000	46, 700, 000	57, 000, 000

TABLE 1.—*Estimated total numbers of cattle, sheep, and swine (on farms and otherwise) in United States, 1850–1924*—Continued.

January 1—	Cattle.			Sheep.	Swine
	Dairy.	Beef.	Total.		
1896	26,800,000	39,700,000	66,500,000	42,600,000	56,600,000
1897	26,500,000	38,700,000	65,200,000	41,300,000	55,000,000
1898	26,400,000	38,000,000	64,400,000	42,600,000	55,100,000
1899	26,800,000	37,100,000	63,900,000	44,600,000	54,900,000
1900	27,400,000	37,500,000	64,900,000	48,100,000	53,900,000
1901	26,800,000	37,700,000	64,500,000	50,400,000	55,700,000
1902	26,100,000	36,400,000	62,500,000	51,900,000	48,700,000
1903	26,300,000	35,600,000	61,900,000	53,000,000	48,000,000
1904	26,400,000	33,800,000	60,200,000	42,500,000	49,200,000
1905	26,200,000	33,300,000	59,500,000	36,800,000	50,600,000
1906	29,100,000	34,800,000	63,900,000	41,000,000	57,000,000
1907	30,300,000	37,900,000	68,200,000	42,700,000	61,300,000
1908	30,100,000	35,900,000	66,000,000	43,500,000	64,200,000
1909	30,400,000	34,400,000	64,800,000	44,300,000	63,400,000
1910	30,000,000	32,000,000	62,000,000	44,800,000	57,200,000
1911	30,200,000	30,500,000	60,700,000	45,700,000	63,700,000
1912	29,900,000	28,300,000	58,200,000	44,600,000	62,700,000
1913	29,400,000	27,400,000	56,800,000	43,700,000	57,900,000
1914	29,600,000	27,200,000	56,800,000	42,200,000	55,000,000
1915	30,300,000	28,300,000	58,600,000	42,300,000	59,600,000
1916	31,300,000	30,900,000	62,200,000	41,100,000	61,700,000
1917	32,300,000	32,600,000	64,900,000	40,200,000	60,700,000
1918	32,700,000	35,100,000	67,800,000	40,900,000	63,000,000
1919	32,800,000	36,200,000	69,000,000	41,100,000	65,300,000
1920	32,900,000	35,900,000	68,800,000	[1] 39,500,000	62,000,000
1921	32,700,000	34,500,000	67,200,000	37,900,000	58,600,000
1922	33,400,000	34,300,000	67,700,000	36,800,000	60,700,000
1923	33,900,000	35,000,000	68,900,000	37,700,000	71,300,000
1924	34,200,000	34,300,000	68,500,000	38,800,000	68,200,000

[1] Census figure adjusted to department total.

A study of the table and the corresponding chart, Figure 1, shows a rather remarkable unanimity in all the curves, including that of the population, until 1885, excepting the drop in cattle and swine

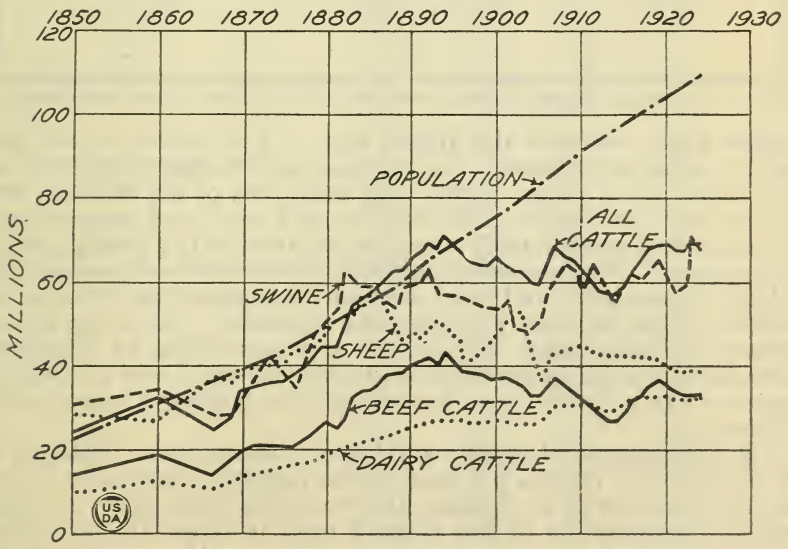

FIG. 1.—Trend of human and livestock population, 1850–1924.

at 1867, due to the Civil War. After 1885 the three livestock curves are characterized by considerable irregularity. The line of population definitely parted company with that of sheep in 1885; that of swine clung on, rather weakly, until 1892, while that of cattle continued its supremacy until 1895.

As previously explained, an attempt has been made to subdivide the cattle into the beef and dairy types, and it will be noted that the curve of dairy cattle is far more regular than any other, except the population. It is interesting to note, also, that dairy cattle exceeded the beef type in number from 1913 to 1917.

The relative positions of the curves at present indicate more and more difficulty in supplying our ever-increasing population with a sufficiency of meat and dairy products, to say nothing of providing a surplus for the export trade. The conditions recently surrounding the livestock industry show greater stability compared with the vicis-

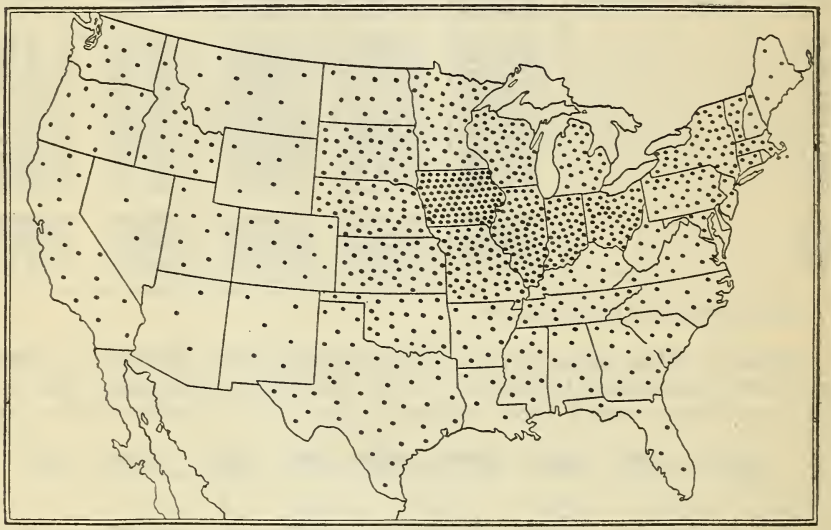

FIG. 2.—Distribution of registered purebred cattle, sheep, and swine, 1920. 1 dot=5,000 purebreds.

situdes which followed the World War. The farmer on his part should endeavor to improve his breeding and feeding methods so as to increase the average quality and meatiness of his animals, and thereby also his profits. But stability and continued prosperity in the industry depend largely upon the attitude of the general public as consumers. The business of marketing the products of food animals is highly specialized, and there are many complications in the intermediate stages between producer and consumer. The large spread between wholesale and retail prices of meats might be somewhat curtailed if consumers purchased a greater variety of cuts as well as a greater variety of meats, as, for example, by making a larger use of mutton.

The consumption of mutton and lamb is shown later (Table 11) to be only about 6 pounds per head of the population annually. This quantity might well be doubled, and even then it would be less than half the consumption of this class of meat in Great Britain. (See Table 12.) Of course, any decided increase would necessarily be a

gradual process. The sheep rancher and farmer must cooperate so that the supply will be sufficient to insure a retail price that will tempt the consumer.

PUREBRED FOOD ANIMALS IN THE UNITED STATES, 1920.

A very interesting and valuable addition to our knowledge of farm livestock was ascertained for the first time at the last agricultural census for 1920, namely, the numbers of the registered purebred animals on each farm. An arrangement of the census figures is given in Table 2, showing the number of registered purebreds reported for each State in order of priority from the standpoint of total purebreds in the State. Table 3 gives the totals for each breed in order of precedence for each class of stock. The map (fig. 2) shows the geographical location of the animals by the distribution in each State.

TABLE 2.—*Number of registered purebred cattle, sheep, and swine on farms and per cent of total purebreds in each State, January 1, 1920.*

State.	Number of registered purebred—			Total registered purebreds.	
	Cattle.	Sheep.	Swine.	Number.	Per cent.
United States	1,981,514	463,504	2,049,900	4,494,819	100.0
Iowa	171,645	19,522	289,042	480,209	10.7
Illinois	109,996	13,300	215,965	339,261	7.5
Missouri	102,939	15,383	148,811	267,133	5.9
Ohio	96,384	39,444	96,908	232,736	5.2
Indiana	50,624	9,282	159,696	219,602	4.9
Texas	113,107	17,119	70,853	201,079	4.5
Wisconsin	137,527	10,660	52,237	200,424	4.5
Nebraska	82,047	3,448	112,502	197,997	4.4
Minnesota	88,696	8,729	99,443	196,868	4.4
New York	155,185	18,338	19,230	192,753	4.3
Kansas	97,723	4,565	65,870	168,158	3.7
South Dakota	62,348	6,487	91,853	160,688	3.6
Pennsylvania	81,290	15,781	34,775	131,846	2.9
Michigan	62,800	21,342	33,527	117,669	2.6
Oklahoma	48,252	2,942	53,888	105,082	2.3
California	32,388	28,831	35,741	96,960	2.2
Oregon	24,712	38,738	11,617	75,067	1.7
Tennessee	24,666	2,694	47,571	74,931	1.7
Idaho	19,376	47,107	7,299	73,782	1.6
North Dakota	33,821	4,989	22,076	60,886	1.4
Georgia	13,124	420	46,760	60,304	1.3
Arkansas	13,486	799	46,006	60,291	1.3
Colorado	33,610	7,982	17,951	59,543	1.3
Mississippi	16,001	481	42,923	59,405	1.3
Kentucky	19,693	5,549	33,619	58,861	1.3
Montana	22,994	24,208	5,351	52,553	1.2
Utah	13,856	30,013	2,492	46,361	1.0
Alabama	10,633	323	32,397	43,353	1.0
Virginia	17,777	3,785	20,867	42,429	1.0
North Carolina	10,782	1,207	27,374	39,363	.9
Washington	18,560	8,950	10,006	37,516	.8
Vermont	29,758	3,035	2,111	34,904	.8
Wyoming	17,530	15,612	1,498	34,640	.8
New Mexico	18,727	10,478	3,245	32,450	.7
South Carolina	6,864	192	21,282	28,338	.6
Massachusetts	19,993	1,245	6,533	27,771	.6
West Virginia	12,485	5,424	7,820	25,729	.6
Maine	18,202	2,361	2,913	23,476	.5
Florida	4,338	99	18,638	23,075	.5
Louisiana	6,498	194	11,675	18,367	.4
New Jersey	11,631	1,122	4,622	17,375	.4
Maryland	9,588	1,092	5,860	16,540	.4
New Hampshire	12,656	739	2,099	15,494	.3
Connecticut	10,961	841	3,366	15,168	.3
Arizona	8,455	2,205	1,914	12,574	.3
Nevada	4,174	6,342	449	10,965	.2
Delaware	1,707	12	653	2,372	.1
Rhode Island	1,719	93	513	2,325	.1
District of Columbia	186	----	59	245	----

TABLE 3.—*Number of registered purebred food animals on farms in United States January 1, 1920, by breeds and classes.*

CATTLE.

Beef:		Dairy:	
Shorthorn	416,995	Holstein-Friesian	528,621
Hereford	405,582	Jersey	231,834
Aberdeen-Angus	108,524	Guernsey	79,446
Polled Durham (Shorthorn)	61,764	Ayrshire	39,509
Galloway	7,225	Brown Swiss	8,283
Devon	1,413	Not specified	37,909
Not specified	63,409		
Total	1,064,912	Total	916,602

SHEEP.

Shropshire	124,454	Cheviot	3,000
Rambouillet	106,849	Suffolk	805
Merino	59,920	Leicester	767
Hampshire Down	51,813	Not specified	68,483
Oxford	16,601		
Lincoln	13,903	Total	463,504
Dorset Horn	8,458		
Southdown	8,451		

SWINE.

Duroc-Jersey	819,117	Yorkshire	6,353
Poland China	726,504	Tamworth	5,639
Chester White	191,207	Essex	3,575
Hampshire	106,978	Not specified	56,148
Berkshire	86,676		
Spotted Poland China	47,703	Total	2,049,900

Iowa holds first place in numbers of purebreds, as it does in total animals, including all grades. More than 10 per cent of all the registered cattle, sheep, and swine in the country are in that State. It is easily first in cattle and swine, but the great sheep States are farther west, and Idaho has the largest number of purebred sheep. Ohio is second in purebred sheep and in this respect is far in the lead of all States east of the Mississippi. In total purebreds Illinois comes second to Iowa, and Missouri third, these three States having close to one-fourth of the country's total.

In considering the purebred animals of the country as a whole, it should be remembered there are large numbers of purebreds that are not registered. Many breeders and feeders use purebred animals for strictly utility purposes and thus save the registration fees. Unregistered purebred swine are especially numerous. Inquires by the Bureau of Animal Industry among swine owners and breed associations indicate that about 80 per cent of purebred swine are not registered.

MONTHLY RATIOS OF BIRTHS AND SLAUGHTER OF FOOD ANIMALS.

Table 4 and Figures 3 and 4 show the seasonal relation between births and slaughter of food animals in the United States. The birth ratios were ascertained in an investigation conducted a few years ago by the then Bureau of Crop Estimates; so also was the farm slaughter of swine, which is the only class of farm slaughter available by months. Federally inspected slaughter is reported monthly for all classes of animals by the Bureau of Animal Industry, and the ratios have been computed from the monthly averages for the last 10 years. The figures in the tables show just how the accessions and depletions in each class of stock compare with each other at the end of each month in a normal year.

TABLE 4.—*Monthly ratios of births and slaughter of cattle, sheep, and swine in United States.*

Month.	Cattle.						Sheep.			
	Births.		Slaughter (U. S. inspected).				Births.		Slaughter (U.S. inspected).	
			Cattle.		Calves.					
	Per cent.	*Cumulative.*	*Per cent.*	*Cumulative.*	*Per cent.*	*Cumulative.*	*Per cent.*	*Cumulative.*	*Per cent.*	*Cumulative.*
January	4.9	4.9	8.7	8.7	6.7	3.5	3.5	6.7	8.7	8.7
February	7.2	12.1	6.9	15.6	5.9	12.6	10.1	13.6	7.4	16.1
March	14.6	26.7	7.1	22.7	8.0	20.6	20.8	34.4	7.7	23.8
April	19.0	45.7	6.9	29.6	10.0	30.6	27.0	61.4	6.7	30.5
May	16.0	61.7	7.3	36.9	10.5	41.1	28.5	89.9	6.8	37.3
June	8.8	70.5	7.5	44.4	9.7	50.8	6.8	96.7	7.4	44.7
July	4.6	75.1	7.9	52.3	9.1	59.9	.9	97.6	8.2	52.9
August	4.0	79.1	8.5	60.8	8.2	68.1	.4	98.0	8.9	61.8
September	6.2	85.3	9.3	70.1	8.3	76.4	.5	98.5	9.9	71.7
October	6.1	91.4	10.6	80.7	8.8	85.2	.5	99.0	9.9	81.6
November	4.9	96.3	10.1	90.8	7.9	93.1	.4	99.4	9.5	91.1
December	3.7	100.0	9.2	100.0	6.9	100.0	.6	100.0	8.9	100.0
	100.0		100.0		100.0		100.0		100.0	

Month.	Swine.							
	Births.		Slaughter.					
			U. S. inspected.		Farm.		Total (U. S. inspected and farm).	
	Per cent.	*Cumulative.*	*Per cent.*	*Cumulative.*	*Per cent.*	*Cumulative.*	*Per cent.*	*Cumulative.*
January	3.6	3.6	12.3	12.3	20.3	20.3	14.9	14.9
February	6.2	9.8	9.6	21.9	10.3	30.6	9.8	24.7
March	16.0	25.8	8.3	30.2	5.0	35.6	7.2	31.9
April	21.6	47.4	7.3	37.5	1.6	37.2	5.4	37.3
May	15.2	62.6	8.5	46.0	.7	37.9	5.9	43.2
June	7.2	69.8	8.6	54.6	.4	38.3	5.9	49.1
July	3.8	73.6	6.8	61.4	.3	38.6	4.7	53.8
August	4.4	78.0	5.5	66.9	.5	39.1	4.0	57.8
September	9.1	87.1	5.2	72.1	2.4	41.5	4.3	62.1
October	6.5	93.6	7.2	79.3	6.9	48.4	7.1	69.2
November	3.8	97.4	9.1	88.4	19.5	67.9	12.5	81.7
December	2.6	100.0	11.6	100.0	32.1	100.0	18.3	100.0
	100.0		100.0		100.0		100.0	

CATTLE BIRTHS MORE UNIFORM THAN OTHERS.

As is well known, the great majority of all kinds of farm animals are born during the spring months. The chart shows that more cattle and swine are born in April than in any other month. A high percentage of sheep is also born in April, but still more in May.

The cattle-birth curve is more uniform than that of sheep or swine. There is, of course, a sharp rise during March, April, and May and a lesser one during September and October, but numerous calves are born in every month of the year.

Similar characteristics apply in the case of pigs, except that both the spring and fall peaks are higher, especially the one in September. The figures show 52.8 per cent of all pigs to be born in the three spring months, while 9.1 per cent, or one-eleventh of the total, are born in September.

Lambs are decidedly a spring product. The investigation showed that 76.3 per cent of all lambs were born in the three months March

to May, inclusive. In the first six months 96.7 per cent of the lambs were dropped, leaving only 3.3 per cent during the last six months of the year. It may be mentioned, however, that the percentages for the latter part of the year are considerably higher for sections of the country other than the far West, where the majority of the sheep are. The great range flocks of the West, where comparatively little lambing occurs after July, make the average for the whole country very low after that month.

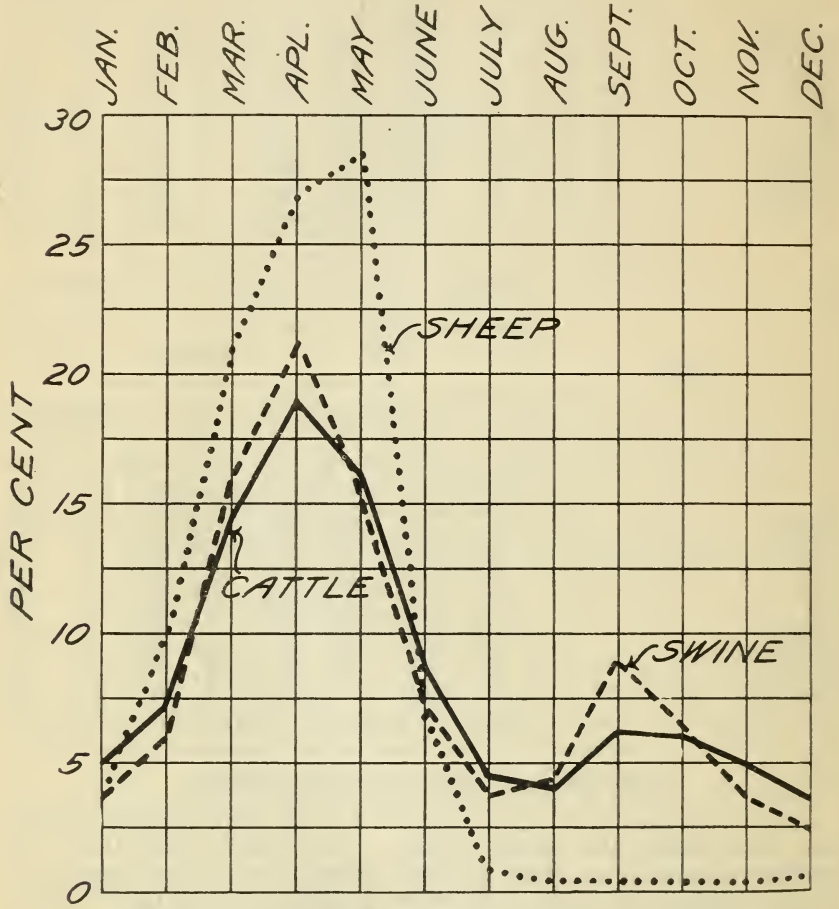

FIG. 3.—Monthly ratios of births.

SWINE SLAUGHTER DROPS HEAVILY IN SUMMER.

Since quantities of meat are consumed every day in the year, there is necessarily much more uniformity in monthly slaughter of animals than in births. Nevertheless there are seasonal differences, notably in the case of swine.

The high period for beef slaughter is in the fall, October and November each having more than 10 per cent of the year's total. With calves the case is reversed, the greatest marketings occurring in April and May.

Considerably more sheep and lambs are marketed in the latter half of the year than in the first six months, September and October being the heaviest months. The slaughter throughout the year, however, runs quite uniformly with that of cattle. The slaughter curves of calves and swine, on the other hand, vary widely. The curve for swine includes the farm kill, which accounts for the great variation between the winter and summer months. The commercial slaughter is also considerably heavier in winter than in summer, as may be seen in Table 4.

The farm kill forms a large proportion of the total hog slaughter of the country—25.2 per cent, according to the latest estimate. Farmers do the bulk of their hog killing in the early winter. Almost three-fourths of the total occurs during three months—November,

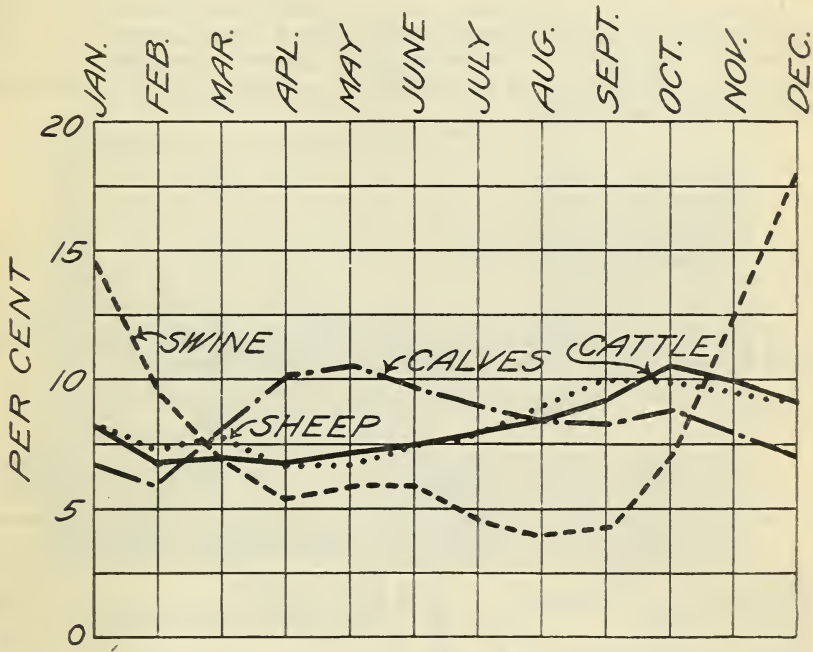

FIG. 4.—Monthly ratios of slaughter.

December, and January—and nearly one-third of the total occurs in the single month of December. It is an interesting fact that during that month more hogs are killed on farms than in all the packing houses and other places where the Federal meat inspection is in operation.

DRESSED MEAT YIELDS OF CATTLE, SHEEP, AND SWINE.

The figures in Table 5 and accompanying chart (fig. 5), showing average dressing yields of representative market grades of cattle, sheep, and swine, have been compiled from numerous sources, including the carcass competitions at the International Livestock Exposition at Chicago and the latest (1921) census of the wholesale slaughter and packing industry. K. F. Warner, of the Animal Hus-

bandry Division of the Bureau of Animal Industry, who supervises the abattoir operations at the bureau's farm at Beltsville, Md., has records of a large number of slaughter tests, and is in possession of similar material from the Bureau of Agricultural Economics as well as from the principal packing firms of the country. The percentages in the table representing good, medium, and common grades of the various animals are by Mr. Warner. It is believed the figures are a true measure of the difference between these grades of livestock when each has had about an equal chance in the feed lot. The table, of course, shows only differences in weight; the effect of quality will be considered in the discussion which follows.

RELATIVE SIZE OF MARKET GRADES.

It may be of interest first to approximate the quantity of each grade of animals actually marketed during a year's operations. We have this information for the principal grades of cattle only as a result of an investigation by the Bureau of Agricultural Economics covering the year 1920.

CATTLE (STEERS).	Per cent of total marketed.
Choice and prime	4. 5
Good	22. 0
Medium	53. 0
Common	17. 0
Canners	3. 5
	100. 0

It should be stated these figures are subject to some change from year to year, owing to fluctuations in market demand.

TABLE 5.—*Dressing yields of livestock.*

Grade.	Per cent of live weight.	Grade.	Per cent of live weight.
CATTLE.		SHEEP AND LAMBS—continued.	
International Show 2-year-olds	66	Market ewes, good	52
International Show yearlings	64. 4	Market ewes, medium	45
Market steers, good	58	Market ewes, common	42
Market steers, medium	55	Market sheep and lambs, average (census, 1921)	47. 9
Market steers, common	52		
Market cows and heifers, good	56	SWINE.	
Market cows and heifers, medium	50		
Market cows and heifers, common	48	International Show hogs, 300 pounds up	85. 3
Market cattle, average (census, 1921)	53. 6	International Show hogs, 200–300 pounds	83. 3
SHEEP AND LAMBS.		Market sows, 250 pounds up, good	81
		Market sows, 250 pounds up, medium	77
International Show wethers	58. 3	Market sows, 250 pounds up, common	75
International Show lambs	55. 3	Market hogs, 180–225 pounds, good	79
Market lambs, good	52	Market hogs, 180–225 pounds, medium	76
Market lambs, medium	48	Market hogs, 180–225 pounds, common	75
Market lambs, common	45	Market hogs, average (census, 1921)	75. 9

NOTE.—The International Show animals in each case are chiefly purebreds, and they were specially fed to produce an ideal carcass.

CATTLE SPREAD IS GREATEST.

Having regard only to the spread between the best and poorest grades of the animals shown in the table, we find this to be somewhat greater with cattle than with sheep, and least of all with swine. It may be pointed out, too, that there is a still lower grade of cattle,

the "canner," that is not on the list. Therefore, as the question of dressing yields of livestock is largely one of breeding as well as feeding, it seems evident that there is a greater disparity in the breeding of market cattle than is the case with other stock.

The difference in dressing yield between a "good" and a "common" steer, according to the table, is 6 per cent. For a 1,000-pound steer this would mean 60 pounds more of marketable meat. Nor is this all, since the meat of the higher-class animal is superior in quality throughout, as well as being better distributed among the choicer cuts. In other words, the well-bred steer makes a more profitable use of his feed than the inferior one. These things are taken strictly into account by the experts who price the animals in the stockyards; they are, indeed, the factors that determine the market value of one class as compared with another.

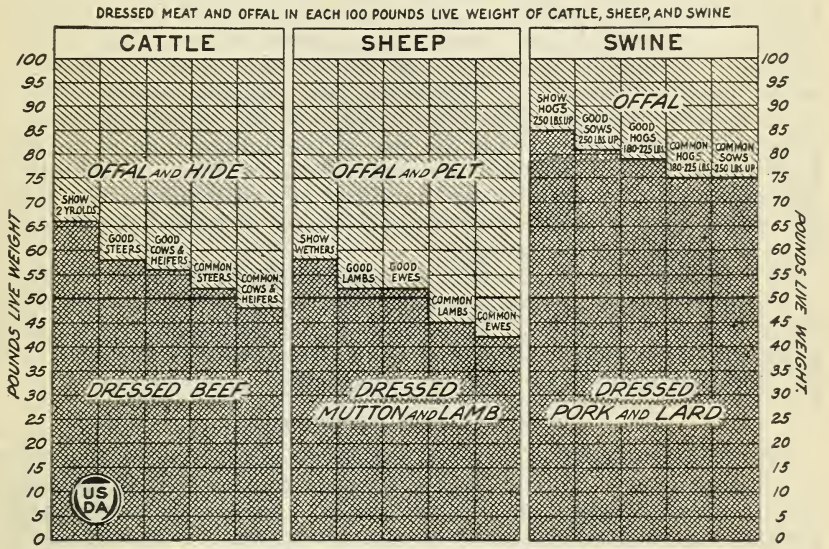

FIG. 5.—Average dressing percentages of cattle, sheep, and swine, showing the superiority, from a meat standpoint, of well-bred livestock.

What happens when two such steers are sold in the open market is of interest. Assume, therefore, a "good" and a "common" steer raised on the same farm and fattened together in the same feed lot. Each steer weighs 1,000 pounds and they are marketed at Chicago during the first week of July, 1923. The result of the sale would have been as follows:

	"Good" steer.	"Common" steer.
Weight at market (pounds)	1,000	1,000
Selling price per 100 pounds [1]	$10.01	$7.12
Sale value of steer	$100.10	$71.20
Increased value of "good" steer	$28.90	
Per cent of increase	40.6	

[1] Market prices from Weather, Crops, and Markets, July 14, 1923, p. 39.

Considering the early maturing qualities of the better-bred beef cattle, it may well be assumed in the above case that the common steer was a year older than the other, and so would have to be charged with an additional year's keep.

It is true, of course, that all cattle feeders throughout the country can not arbitrarily choose either their cattle or their feed. They are governed largely by the kind of cattle available and the feeds that can be used most advantageously in the particular locality. Furthermore, while some experienced feeders are able to make a profit with low-grade animals, this happens only when they have bought them cheaply, in which case the producer or breeder of the animals was probably a loser in the transaction.

SHEEP DRESS LOW.

As a rule, sheep and lambs as marketed dress fully 5 per cent lower than similar grades in cattle. It will be noted that all grades of sheep and lambs below "good" dress under 50 per cent of the live weight. "Common" ewes average only 42 per cent, which is the lowest point on the chart. There are two principal reasons for the lower figures of sheep. First, the weight of the average sheep pelt is proportionately greater for the size of the animal than is the case with cattle hides. Second, the importance of wool in the sheep industry tends to make those marketed of the dual-purpose type, whereas a steer is raised with the sole object of furnishing as much meat as possible in the carcass.

The possibilities in the way of dressing yields by well-bred animals of the mutton type are indicated by the records of the International Show wethers and lambs. These records extend over a long series of years, and show that the dressing yield of the wethers averaged 58.3 per cent and that of the lambs 55.3 per cent.

HOG CARCASS IS ECONOMICAL.

The dressed weight of swine is relatively much greater than that of other animals. This is largely because the head, lard, and skin remain on the carcass after it is dressed. Most hogs in the larger packing establishments, however, are given what is known as the "packer dress," which is head off and leaf out.

According to the table the best heavy hogs dress about 85 per cent of their live weight, while the poorer end of the market classes average as high as 75 per cent. It will be noted, too, that the spread between the highest and lowest grades is much smaller than with either cattle or sheep. Thus there is both uniformity and quality in the average market hog.

The reason for this is fairly evident. It is well known that pure-bred swine, when those not registered are included, greatly outnumber the purebreds of other classes of farm animals. Hence there is little doubt that the qualities above mentioned in market swine are directly attributable to the higher breeding level of the farm hog.

MEAT PRODUCTION, CONSUMPTION, AND FOREIGN TRADE.

Three kinds of slaughter reports are primarily concerned in the compilation of the meat tables which follow: (1) Total commercial slaughter of the United States for 1909, by the census (Manufactures Division). This was a special report and has not been repeated since that time. Combined with the farm slaughter, which is ascertained in the regular census every 10 years, it gave the entire slaughter of the United States for 1909. (2) The United States inspected slaughter, which is reported monthly and annually by the Bureau of Animal Industry, United States Department of Agriculture. Statistical data connected with this class of slaughter are also published monthly by the Bureau of Agricultural Economics. (3) The wholesale slaughter and packing industry of the United States, reported every five years by the census (Manufactures Division) from 1899 to 1919, and a report has since been issued for 1921. Each of the latter reports covers a year's operations.

Thus it is seen that the only kind of slaughter determined annually is the "U. S. inspected." It is reported very fully, but only in respect to the numbers of the animals slaughtered, not their weights. In order to estimate the noninspected slaughter, ratios are used which were established at the census of 1909, when all the different kinds of slaughter were definitely known. It has been necessary to change these ratios, especially since the publication of certain data of the last census, covering the year 1919. The annual ratios of cattle and calf slaughter are estimated by Sewall Wright, of the Bureau of Animal Industry.

The estimates in the tables begin with the calendar year 1907, as that was the first full year the Federal inspection was in operation on its present scale. The animals are converted into meat by use of average carcass weights and average dressing percentages derived from packers' reports to the department, census reports, and other sources. Estimated figures are subject to correction on receipt of later information.

The data throughout are computed from a dressed-weight basis. The edible offal (liver, pluck, etc.) is not included in the dressed weights and so is disregarded. In the aggregate it represents a large quantity of edible material, but it is more than offset by the bones and waste trimmings of the dressed carcasses. The figures in the tables, therefore, represent approximately actual meat.[2] Lard is estimated separately from the dressed weights of swine.

ANNUAL SLAUGHTER OF FOOD ANIMALS, 1907-1923.

Table 6 gives the numbers of the various animals annually slaughtered under the United States inspection, also the estimated total numbers slaughtered, including those on farms. Figure 6 shows the total slaughtered in graphic form and the trend in relation to numbers slaughtered of each of the three species. The meat equivalents will be shown later.

[2]Data on edible offal of the various animals have been ascertained and published by the department in Report No. 109, Meat Situation in the United States (1916).

TABLE 6.—*Numbers of animals slaughtered annually under Federal inspection and estimated total number slaughtered (including farm) in United States, 1907–1923.*

Calendar year.	Cattle.	Calves.	Sheep and lambs.	Goats.	Swine.
1907:					
U. S. inspected	7,633,365	2,024,387	10,252,070	56,750	32,885,377
Total	13,469,900	6,026,800	13,300,600	161,000	55,737,900
1908:					
U. S. inspected	7,279,260	1,958,273	10,304,666	42,981	38,643,101
Total	12,845,000	5,829,900	13,368,800	121,900	65,496,800
1909:					
U. S. inspected	7,713,807	2,189,017	11,342,637	100,659	31,394,896
Total (census)	13,611,422	6,515,976	14,724,699	285,553	53,219,568
1910:					
U. S. inspected	7,807,600	2,238,287	11,408,020	100,379	26,013,783
Total	13,540,600	6,552,600	14,800,200	284,800	44,073,500
1911:					
U. S. inspected	7,619,096	2,183,543	14,020,446	38,892	34,132,955
Total	12,958,100	6,264,500	18,189,500	110,300	58,022,000
1912:					
U. S. inspected	7,252,578	2,277,954	14,979,254	72,894	33,052,727
Total	11,979,000	6,348,000	19,433,400	206,800	56,022,000
1913:					
U. S. inspected	6,978,361	1,902,414	14,405,759	75,655	34,198,585
Total	11,477,600	5,284,500	18,689,400	214,600	57,973,500
1914:					
U. S. inspected	6,756,737	1,696,962	14,229,342	175,906	32,531,841
Total	11,004,500	4,661,400	18,460,500	499,000	55,148,100
1915:					
U. S. inspected	7,153,395	1,818,702	12,211,765	153,346	38,381,228
Total	10,822,100	4,639,500	15,843,000	435,000	62,693,900
1916:					
U. S. inspected	8,310,458	2,367,403	11,941,366	198,909	43,083,703
Total	12,026,700	5,773,900	15,492,200	564,300	70,054,800
1917:					
U. S. inspected	10,350,152	3,142,721	9,344,994	165,660	33,909,704
Total	13,723,900	7,030,700	12,123,800	470,000	57,488,800
1918:					
U. S. inspected	11,828,549	3,456,393	10,319,877	137,725	41,214,250
Total	15,750,400	7,513,900	13,230,600	390,100	65,732,400
1919:					
U. S. inspected	10,091,084	3,969,027	12,691,116	87,381	41,811,830
Total	13,635,100	8,445,000	16,264,800	247,500	66,680,300
1920:					
U. S. inspected	8,608,691	4,058,370	10,982,180	42,477	38,018,684
Total	12,847,700	8,455,400	14,079,700	120,500	60,635,900
1921:					
U. S. inspected	7,608,280	3,807,568	13,004,904	12,133	38,982,355
Total	12,271,300	7,770,600	16,673,000	34,400	62,172,900
1922:					
U. S. inspected	8,677,807	4,181,569	10,928,941	20,633	43,113,629
Total	13,148,200	8,363,100	14,047,500	58,400	67,050,700
1923:					
U. S. inspected	9,162,516	4,500,323	11,528,550	26,607	53,333,708
Total	13,882,600	8,824,200	14,818,200	75,400	81,532,600

NOTE.—United States inspection of horses at slaughter was commenced in September, 1919, the number so inspected to date being: 1919, 432; 1920, 894; 1921, 2,562; 1922, 914; 1923, 2,947. A large proportion of this horseflesh is exported.

A glance at Figure 6 shows that the cattle and sheep curves run together somewhat regularly throughout. The high tide in sheep marketing, from 1912 to 1915, was coincident with a depression in cattle slaughtering, so that during those years the sheep curve is slightly higher than that of cattle. The war conditions then promoted cattle feeding for meat production, while sheep were required to provide a maximum of wool.

Swine marketings are of course much more numerous than those of cattle or sheep, more so, in fact, than both combined. Hog marketing, however, is subject to sharp vicissitudes, due to the prevailing economic and feeding conditions. It will be noted there are two pronounced depressions in the swine curve. The first, in 1909 and 1910, was due mainly to scarcity and high price of corn, and the second, in 1917, is attributed to overmarketing in 1916. In that year

war conditions and prices induced feeders to draw on the future, thus depleting the stock. The chart shows a remarkable recovery, however, in 1918 and 1919. This was not kept up in 1920 and 1921 largely because of the disastrous break in values during those years. Regarding the high points in the curve showing hog production, it may be noted that the war effort of 1916 has been exceeded only by the record-breaking slaughter of last year (1923). Main factors in the latter were the surplus of corn, together with more favorable marketing conditions for hog raisers.

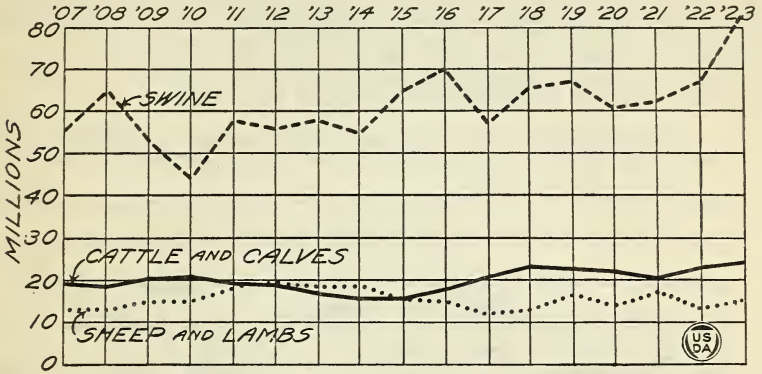

FIG. 6.—Total animals slaughtered, 1907–1923.

ANNUAL PRODUCTION OF MEATS AND LARD, 1907–1923.

The quantities of dressed meat and lard annually resulting from the slaughter of animals are given in Table 7 and Figure 7.

TABLE 7.—*Estimated total production of dressed meats and lard in United States annually, 1907–1923.*

[In millions of pounds.]

Calendar year.	Beef.	Veal.	Mutton and lamb.	Pork (exclusive of lard).	Total dressed meat.[1]	Lard.
1907	7,319	626	559	7,491	16,002	1,683
1908	6,676	605	555	8,226	16,067	1,854
1909	7,071	684	604	6,690	15,060	1,506
1910	6,733	687	600	5,881	13,913	1,344
1911	6,497	657	738	7,511	15,407	1,717
1912	5,920	668	788	7,189	14,573	1,643
1913	5,913	488	738	7,492	14,640	1,713
1914	5,639	433	720	7,228	14,039	1,652
1915	5,816	428	626	7,850	14,737	1,800
1916	6,118	536	612	8,509	15,797	1,923
1917	6,686	662	473	6,901	14,740	1,577
1918	7,320	765	489	8,854	17,443	2,015
1919	6,283	804	602	8,933	16,631	2,089
1920	6,463	838	538	8,193	16,037	2,022
1921	6,194	748	601	8,475	16,019	2,095
1922	6,747	793	534	9,162	17,238	2,330
1923	6,916	871	570	11,182	19,542	2,871

[1] Includes small quantity of goat meat.

Table 7 and the corresponding chart show a gradual decline in beef production from 1909 until the call of the late war spurred cattle raisers to a supreme effort. A steady rise of the beef curve from 1914 to the high peak of 1918 was the consequence. Since that year,

however, there has been a decline of more than a billion pounds in the annual production, followed by a sharp recovery in 1922 and 1923.

The curve showing pork production has two abnormally low points, the causes for which have been explained in the discussion of Table 6. Otherwise the war demands on swine raisers were met in even greater degree than was the case with cattlemen. It will be noted that pork production in the last two years has risen to unprecedented heights.

A glance at the lines of mutton and veal shows the relative smallness of the quantity produced of each of these classes in comparison with pork and beef. From 1911 to 1916 mutton production was larger than that of veal, but war conditions favored the marketing of calves, and from 1917 to 1920 veal production increased.

The curve of lard production shows a steady supply at a high level since 1918, with a sharp increase in 1922 and 1923.

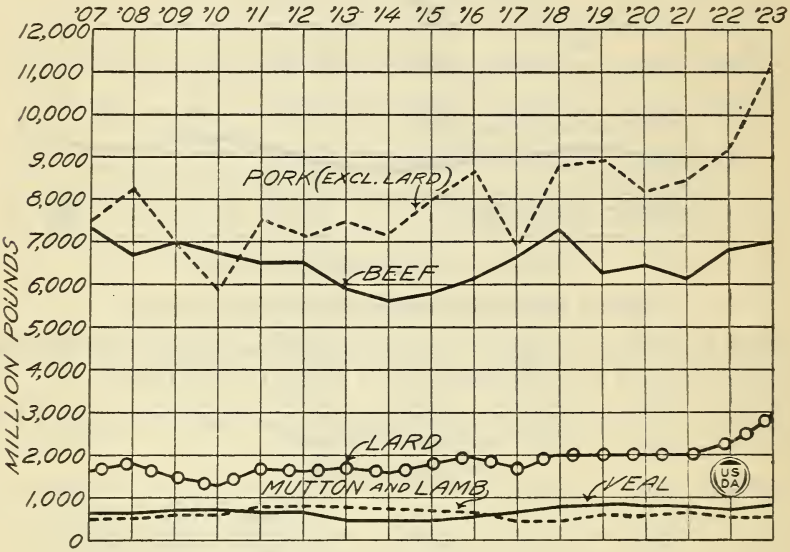

FIG. 7.—Total production of meats and lard, 1907–1923.

FOREIGN TRADE IN MEATS, LARD, AND ANIMALS, 1907–1923.

Tables 8, 9, and 10 and Figure 8 illustrate the part played by meats, lard, and meat animals in our foreign trade. The figures in the tables are taken from the December reports of the Department of Commerce, which give the calendar-year totals. The exports are those of domestic origin, and the imports are the net imports, after deducting the reexports. In some cases adjustments have been necessary in order to bring all meat items under the heads given in Tables 8 and 9. The Bureau of Animal Industry meat-inspection records are also used for this purpose. Considerable quantities of unidentified meat products, canned and otherwise and including edible offal, appear in the commerce reports under the classification "All other." These can not be shown in the tables.

The exports of beef, pork (mostly bacon and hams,) and lard have been large at all times, and during the war period were abnormally so, although they do not include the overseas supplies for the United States military and naval forces.

Imports of meats as a rule are comparatively unimportant, consisting mostly of European specialties, for which there is a demand among certain classes of consumers. Beef, however, has occasionally been imported in quantities. In 1920 an attempt was made to market New Zealand lamb in this country. About 100,000,000 pounds were imported with the result that a large portion failed to find a market and was reexported during that year and in 1921.

Regarding the trade in live animals, there was a period during the nineties and early in the present century when exports of beef cattle on the hoof were very important. In some years more than 500,000 high-class beeves were thus shipped, mostly to British ports for immediate slaughter. Table 10 shows how this trade became practically nonexistent by 1914. It was, in fact, displaced largely because of the greater economy and convenience of shipping the beef in a refrigerated state.

The imports of cattle, which are considerable, are mostly stocker and feeder animals brought over the Canadian and Mexican borders.

TABLE 8.—*Exports (domestic) of meats and lard from United States annually, 1907–1923.*

[In millions of pounds.]

Calendar year.	Beef.	Mutton and lamb.	Pork (exclusive of lard).	Total meat.	Lard.
1907	352	1	1,014	1,367	589
1908	228	1	619	848	582
1909	163	2	472	637	458
1910	110	2	313	425	379
1911	92	3	456	551	605
1912	56	5	440	501	553
1913	46	5	456	507	575
1914	88	5	370	463	461
1915	382	9	888	1,279	439
1916	279	7	1,003	1,289	457
1917	359	3	925	1,287	384
1918	706	2	1,702	2,410	555
1919	282	4	1,865	2,151	785
1920	148	5	910	1,063	636
1921	45	8	742	795	893
1922	37	2	704	743	789
1923	33	2	934	969	1,060

TABLE 9.—*Imports*[1] *(less reexports) of meat into United States annually, 1913–1923.*

[In millions of pounds.]

Calendar year.	Beef.	Veal.	Mutton and lamb.	Pork (exclusive of lard).	Total meat.
1913 (6 months)	35	----------	----------	1	36
1914	253	5	18	31	307
1915	125	1	14	7	147
1916	23	1	14	2	40
1917	25	1	6	4	36
1918	125	1	1	4	131
1919	53	5	7	7	72
1920	43	8	[2] 62	3	116
1921	23	4	[2] 18	1	46
1922	32	5	11	1	49
1923	24	2	6	1	33

[1] Imports of meat were not separately enumerated until July 1, 1913. The figures in this table are from Bureau of Animal Industry records, which permit a more accurate classification than is given in the monthly summary of the Department of Commerce.

[2] Reexports of New Zealand lamb in 1921 have been adjusted by applying 40,000,000 pounds on the imports of the previous year (1920).

TABLE 10.—*Exports and imports of food animals (number), 1907–1923.*

Calendar year.	Exports (domestic).			Imports (less reexports).		
	Cattle.	Sheep.	Swine.	Cattle.	Sheep.	Swine.[1]
1907	401, 583	121, 197	23, 783	64, 096	200, 431	----------
1908	277, 036	100, 644	29, 005	112, 017	125, 502	----------
1909	184, 957	54, 613	11, 886	153, 808	126, 862	----------
1910	109, 629	52, 638	4, 019	211, 192	55, 846	----------
1911	164, 087	177, 069	13, 246	251, 173	22, 856	----------
1912	46, 463	191, 963	17, 478	325, 651	89, 058	----------
1913	26, 236	170, 411	12, 118	736, 588	115, 688	----------
1914	8, 694	78, 227	12, 399	727, 886	199, 995	----------
1915	16, 256	40, 501	7, 261	552, 302	276, 521	3, 578
1916	12, 171	55, 059	28, 301	295, 067	125, 720	2, 402
1917	20, 009	30, 359	15, 588	347, 510	202, 861	16, 236
1918	17, 280	7, 962	10, 308	352, 568	150, 053	7, 467
1919	69, 859	34, 531	24, 745	641, 853	221, 538	20, 657
1920	85, 302	48, 878	55, 250	377, 397	172, 841	1, 096
1921	196, 533	117, 396	123. 067	193, 704	84, 734	2, 838
1922	111, 207	17, 172	77, 761	237, 116	95, 332	3, 223
1923	37, 194	16, 879	87, 641	138, 467	39, 255	2, 371

[1] Not separately enumerated until 1915.

Figure 8, showing the exports of meats and lard, is chiefly remarkable for the extraordinary bulge due to the war trade, which consists of a 5-year period extending from 1915 to 1919. It may be

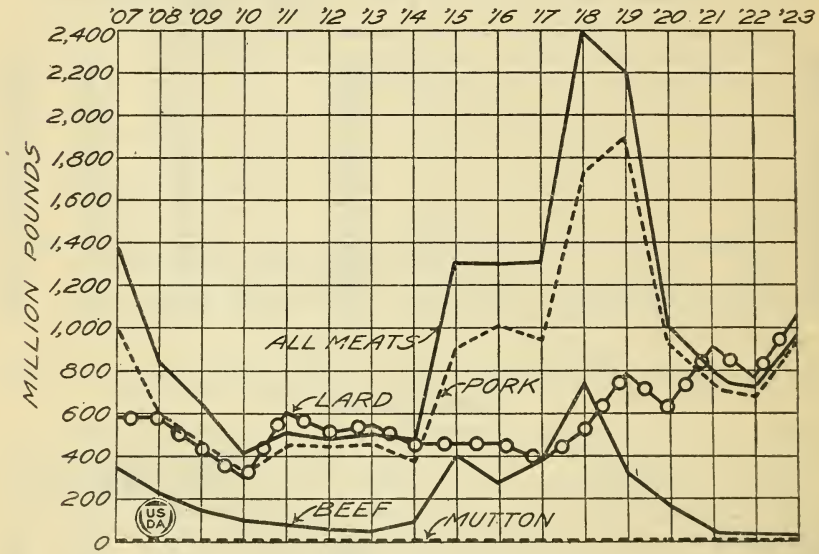

FIG. 8.—Exports of meats and lard, 1907–1923.

noted that the beef curve begins to fall one year earlier than pork, the beef highest peak being in 1918 and that of pork in 1919. It is noticeable also that lard did not follow the upward trend of pork in the early years of the war. This was owing to the loss of trade with Germany and some other European countries which are normally large consumers. The revival of this trade caused lard exports to break all records in 1921 and again in 1923, when the total for the first time exceeded a billion pounds for the year.

An interesting comparison may be noted in respect to the curves of lard and of all meats combined. During the three pre-war years 1911 to 1913 the exports of lard slightly exceeded those of all meats. The influence of the war then carried the meats to unprecedented heights while lard exports actually decreased until 1917. Following that year the meats curve dropped sharply, while that of lard rose steadily until, in 1921, it again exceeded the meats and has since maintained that position.

PER CAPITA CONSUMPTION OF MEATS AND LARD, 1907—1923.

The consumption of dressed meat per head of the population is shown in Table 11 and Figure 9. The per capita figures are derived

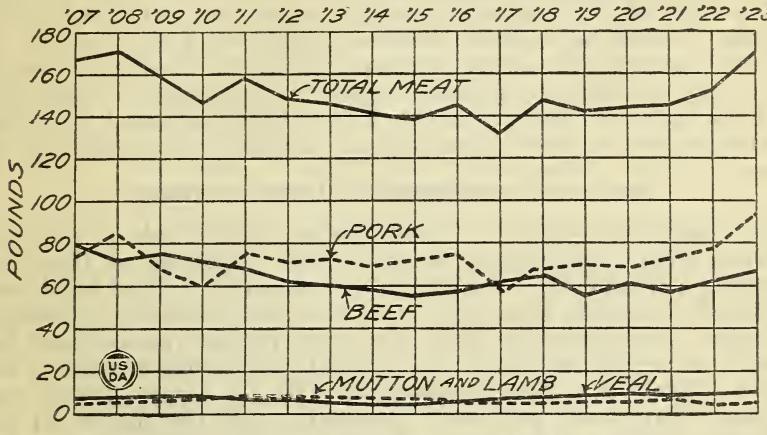

FIG. 9.—Per capita consumption of meats, 1907-1923.

by dividing the annual consumption totals of each kind of meat by the population of continental United States for July 1 of each year, as published by the census.

TABLE 11.—*Per capita consumption of dressed meats and lard (in pounds) 1907–1923.*

Kind.	1907	1908	1909	1910	1911	1912	1913	1914	1915
Beef	79.7	72.4	76.2	71.8	68.4	61.7	60.8	59.3	56.0
Veal	7.1	6.8	7.5	7.4	7.0	7.0	5.0	4.4	4.3
Mutton and lamb	6.4	6.2	6.6	6.5	7.8	8.2	7.6	7.5	6.4
Pork (exclusive of lard)	74.1	85.4	68.6	60.3	75.1	70.6	72.5	70.3	70.2
Goat	.1	.1	.1	.2	.1	.2	.1	.2	.2
Total	167.4	170.9	159.0	146.2	158.4	147.7	146.0	141.7	137.1
Lard	12.5	14.3	11.6	10.5	11.8	11.4	11.7	12.1	13.2

Kind.	1916	1917	1918	1919	1920	1921	1922	1923
Beef	57.3	61.1	65.2	58.0	61.2	57.8	61.4	62.5
Veal	5.3	6.5	7.4	7.7	7.9	7.0	7.3	7.9
Mutton and lamb	6.2	4.6	4.7	5.8	5.0	6.2	5.0	5.2
Pork (exclusive of lard)	73.1	58.5	67.6	68.6	69.0	72.9	76.0	91.4
Goat	.2	.2	.1	.1	.1			
Total meat	142.1	130.9	145.0	140.2	143.2	143.9	149.7	167.0
Lard	14.4	11.9	13.6	12.8	13.1	11.3	14.1	16.4

The total quantity of meat consumed year by year as a rule has shown only a limited variation. But the steadily increasing population brought about a considerable decline in the per capita consumption from 1907 up to and including 1921. Table 11 shows that the reduction in the 15 years amounted to more than 20 pounds per head. The greater purchasing power of the people of the United States in recent years is strongly evidenced by a rise of 6 pounds per head in the consumption of 1922, and by the ready absorption of the enormous pork supplies in 1923, which were chiefly instrumental in increasing the per capita consumption for that year by 17 pounds up to a total of 167.0 pounds. This figure has been exceeded but once since 1907.

The year of highest consumption per head in the table is 1908, with a total of 170.9 pounds, and the lowest was 1917, with 130.9 pounds. It will be recalled, however, that 1917 was a year of restricted marketing, especially of sheep and swine, as well as of "meatless days" to conserve a short supply for war needs. Regarding the high figure of 1908, it may be noted that it occurred at a time when meat was relatively much more plentiful and cheap than at present.

PER CAPITA CONSUMPTION IN VARIOUS COUNTRIES.

For comparison with the United States totals Table 12 is given, showing meat consumption in such other countries as there are estimates available for. No very recent data of this kind have been published, however, because of the unsettled conditions following the war. The figures in each case cover pre-war periods and are given as an approximation of the normal yearly consumption in the various countries. Meat-consumption data for Great Britain and Germany have been published frequently and the figures in the table are averages for a series of years. The estimates were prepared by George K. Holmes, of the department, and were published in 1916.

TABLE 12.—*Per capita consumption of meat (in pounds), pre-war, in specified countries.*

Country.	Total meat.	Beef and veal.	Mutton and lamb.	Pork.	Other meat.
Argentina	281	240	28	13	
Australia (1902)	262.6				
New Zealand (1902)	212.5				
United States (10-year average, 1912–1921)	144.1	66.5	5.7	71.8	0.1
Canada (1910)	137	61	9	67	
Cuba (1906)	124				
United Kingdom (average, 1895–1908)	120	57.7	26.7	35.6	
Germany (average, 1904–1913)	115	41.5	2.2	69.4	1.9
France (1904)	80	43	9	27	1
Denmark (1902)	76				
Switzerland (1899)	75				
Belgium (1902)	70				
Netherlands (1902)	70				
Greece (1899)	68				
Austria-Hungary (1890)	64				
Norway (1902)	62				
Sweden (1902)	62				
Poland (1899)	62				
Russia (1899)	50				
Spain (1899)	49				
Italy (1901)	46.5				

It will be noted there are three countries only which have a consumption per head of the population greater than that of the United States, and in every case these are countries of sparse population and large surpluses of cattle and sheep. Argentina, Australia, and New Zealand are now the great sources of the world's surplus of beef and mutton. Consequently in such countries these products are abundant and cheap, to say nothing of the probable waste in their use, which would add further to the quantity reported for home consumption.

The estimate for Argentina appeared in an article in the official monthly bulletin of the Argentine Department of Agriculture for March, 1914. As it is the highest meat-consuming country in the list, a brief outline of the method of making the estimate may be of interest. The total cattle and sheep slaughtered were first ascertained by taking the number of hides and skins reported during the year to be used in the country and exported. After certain deductions and allowances for meat exports, dead animals, etc., it is calculated that 4,292,841 head of cattle (including 25 per cent of calves) were consumed in Argentina. An average weight of 225 kilograms (496 pounds) is allowed for these animals, which, divided by an assumed population of 8,000,000, gives the per capita of beef and veal as 121 kilograms (266½ pounds). A similar calculation with sheep makes the per capita of mutton 12 kilograms (26½ pounds). The author then quotes the per capita consumption of beef, mutton, and pork at the capital (Buenos Aires), previously ascertained, and these totals are adopted as the estimate for the whole of Argentina, although it may be noted that the figure for beef is 26½ pounds less than the one first calculated. It may be stated, also, that published statistics show the per capita consumption in large cities to be in general considerably greater than for a whole country, which would indicate that the figures for Argentina are probably higher than is actually the case.

In six of the countries in the table the data include the proportion consumed of each kind of meat. These figures indicate that (1) the people of Argentina consume the most beef; (2) the British meat dietary has the closest balance of beef, mutton, and pork and by far the largest proportion of mutton; and (3) the Germans are, relatively, the greatest pork consumers.

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